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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHANG, AUDREY Y	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,839	FARIS ET AL.	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 29 January 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on January 29, 2004 which has been entered.
- By this amendment, the applicant has amended claims 1-3, and has newly added claims 4-9.
- Claims 1-9 remain pending in this application.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features recited in claims 1-3 in particularly the a plurality of phase difference film, a plurality of grooves, and display member must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "adhesive 4", "display member 5", and "resin 6". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The proposed drawings submitted on January 29, 2004 DO NOT overcome the objections since the figures fail to provide details of the claims and fail to provide even correct numerical references that correspond to the numerical references stated in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 1-3 and newly added claims 4-9 are rejected under 35 U.S.C. 112, first paragraph,** as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification and the claims **fail** to describe how could the film having resin portion set to right eye image display portion (or left image display portion) and polarized portion set to left-eye image display portion (or right image display portion) is **capable** of forming 3D image display. The resin portion **will not** provide any coding scheme to make the right-eye image to go to right eye **only**, which is an essential criterion for the three dimensional effect to occur. The **amendment** to claims 1-3 having synthetic resin with a refractive index equals to the refractive index of the phase difference film **does not** overcome the rejections since it does not provide any means to make the film capable of forming 3D image display body.

6. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification and the claim fail to teach adequately concerning the plurality of grooves and how is related to the rest of the element for the three dimensional image display to take place.

Claim Objections

7. **Claims 1-3 and newly submitted claims 4-9 are objected to because of the following informalities:**

(1). The phrase "the optical axes therefore cross one another" recited in claims 1-3 are confusing and indefinite since it is not clear if this means the PVA film having different polarization state at different regions? It is not clear how could the PVA film being ***stretched*** to have different polarization directions to occur in the film.

(2). The phrase "phase difference film" recited in claims 1-3 are confusing and indefinite since it is not clear what does this phrase really mean.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-3 and newly added claims 5, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris, (please PN. 5,327,285).

Faris teaches a *micropolarizer* (Figure 1), which can be used with spatially multiplexed image elements in a 3D stereo display system, (please see column 1). The stereoscopic viewing is **enabled** by having the *micropolarizer* (1, Figure 1) with mixed regions of *orthogonal polarization states* (P1 and P2) that are aligned with the spatially multiplexed left and right eye image respectively such that the right eye and left eye image are then coded with orthogonal polarization states (P1 and P2), (the spatially multiplexed left and right eye image therefore serves as the left eye and right eye image *display portions*),

respectively, and then with the help of a spectacle the left and right eye images could be viewed by left and right eye respectively of an observer. Faris teaches that the *micropolarizer is manufactured* by *laminating* a *PVA film (*5, 10 or 68, in Figures 2-3 and 6a*),* which could be a *linear polarizer, with a CAB or TAC film (4 or 69)* that together serve as the *laminated phase difference film.* Faris also teaches that the specific portions of the laminated polarizing film may be cut away by using a *diamond cutter* (66, Figure 6a) so that a plurality of grooves extending from a first side of the polarizing film with respect to the second side are formed, (pleas see Figure 6a and column 4, lines 24-30). The plurality of grooves are then corresponding to patterned regions of linear polarizer.

Faris teaches that the laminated phase difference film is formed by laminating a polarizing film (5) on a substrate (4). A *photoresist* layer (6) is placed on top of the polarizing film (5) so that different region of the film may be exposed and acted upon to produce patterned polarization regions on the polarizing film. Faris teaches that the polarizing PVA film may also be cut away as shown in Figure 6a, to form the patterned micropolarizer. However this reference does not teach explicitly to fill the cut away region with resin. But such difference **does not** change the function of the patterned micropolarizer for creating the stereoscopic display of the image and it is considered to be obvious matter of design choice for one skilled in the art. And as disclosed in the paragraphs above the synthetic resin **really** contributes nothing to achieve 3D image display and actually by having such portions it is questionable that the film will be able to allow 3D image display, (for the reasons stated above). One skilled in the art however may be motivated to fill the space between polarization regions with resin to make the film with smooth surface as desired or for the benefit of making it easily adopted to other optical element.

Claims 1-3 have been amended to include the feature of having the synthetic resin having the same refractive index as the phase difference film. Faris does not teach such explicitly, however the specification fails to teach the criticality of having this will overcome any problem in the prior art. Since it is very well known in the art to match refractive indices of adjacent optical elements to reduce

unwanted refraction at the possible interface between the two elements, such modification would then have been obvious to one skilled in the art for the benefit of reducing unwanted refraction of light in the film.

Faris also teaches an embodiment for allowing the display of stereoscopic image by having a patterned linear polarizer (40, Figure 10) place on top of a circularly polarizer (41), to create micropolarizer regions having circularly polarization that are orthogonal to each other in accordance with left eye and right eye image display portion.

10. Claims 4, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris as applied to claims 1-3 above, and further in view of the patent issued to Madokoro et al (PN. 5,519,523).

The *micropolarizer*, which can be used with spatially multiplexed image elements in a 3D stereo display system taught by **Faris** as described for claims 1-3 above has met all the limitations of the claims. Faris teaches that the phase difference film includes stretched PVA film as the birefringent film but does not teach explicitly that the birefringent film may also include *polycarbonate* film However it is well known in the art that a polycarbonate film has *intrinsic birefringent* property and is suitable for applying in a phase difference film as demonstrated by the teachings of **Madokoro** et al, (please see column 8, lines 36-41). It would then have been obvious to one skilled in the art to apply the teachings of Madokoro et al modify the micropolarizer of Faris by using polycarbonate film as an alternative birefringent film since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended used as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

11. Applicant's arguments filed on January 29, 2004 have been fully considered but they are not persuasive. The newly amended claims and newly added claims have been fully considered and they are rejected for the reasons stated above.

12. The applicant is respectfully advised that the claims as stand now **FAIL** to define an **operable device**. A 3D image display, (by the way a 3D image is NOT a cubic image), is provided by having left eye image portion and right eye image portion being directed to left eye and right eye of an observer **respectfully**. Polarization coding is one of the standard schemes in the art to achieve such, by coding left eye image portion and right eye image portion with orthogonal polarization states. An optical element such as spectacle with orthogonal polarized left and right viewing regions wherein the polarization states for the left eye and right eye viewing regions match with the polarization states of the left eye image portion and right eye image portion, respectively, is needed to allow the correct images to be present to the correct eye. The resin portions **will not be able to** provide any polarization coding, it is therefore not clear how could the images with different polarization coding even exist in the film to provide 3D viewing. Applicant is respectfully requested to amend claims to provide **workable device**.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Audrey Y. Chang
Primary Examiner
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